

Claims

1. Multichamber microdialysis device with a plurality of
5 sample chambers in close side by side arrangement,
surrounded by circumferential side walls (15),
respectively, for taking up liquid samples, and
at least one dialysate chamber (8) for taking up a
dialysate liquid,
10 wherein the sample chambers (7) are in liquid
exchange contact to an adjacent dialysate chamber (8)
via an exchange opening (10) covered by a
semipermeable membrane (9), and wherein the membrane
(9) is fixed liquid-tight to the side walls (15) of
15 the sample chamber (7), in such a manner that a
diffusion exchange between the sample chamber (7) and
the neighboring dialysate chamber (8,31) through the
membrane is only possible for molecules with a
molecular weight below the molecular cut-off of the
20 semipermeable membrane (9),
characterized in that
the semipermeable membrane (9) is fixed by clamping
between the front face (20) of the circumferential
side wall of the sample chamber and a fixing part
25 (21), wherein the front face (20) of the side wall
(15) and the fixing part (21,33) each comprise a
ring-shaped circumferential mounting region (23,24)
contacting a peripheral marginal section of the
membrane (9); and that one of the mounting regions
30 (23) comprises a circumferential groove (26) and the
other circumferential region (24) comprises a
protruding rib (27) fitting into the groove (26), by
which the membrane (9) is pressed into the groove

(26) at its peripheral marginal section which is clamped between the mounting regions (23,24).

2. Multichamber microdialysis device according to claim
5 1, characterized in that the exchange surface area
(28) of the membrane is smaller than 50 mm².
3. Multichamber microdialysis device according to any
one of the preceding claims, characterized in that at
10 at least a part of the sample chambers (7) are each in
liquid exchange contact to a single dialysate chamber
(8) via their exchange openings (10), which single
dialysate chamber (8) is not in liquid exchange
contact to any other sample chamber.
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4. Multichamber microdialysis device according to any
one of the preceding claims, characterized in that
the fixing part (21) is shaped as a circumferential
fixing ring (22) for fixing one semipermeable
20 membrane (9) each.
5. Multichamber microdialysis device according to claim
4, characterized in that the wall thickness (d) of
the fixing ring (22), measured in radial direction,
25 is at most 1.5 mm, preferably at most 1 mm.
6. Multichamber microdialysis device according to any
one of the preceding claims, characterized in that at
least a part of the sample chambers (7) are in
30 contact to a common dialysate chamber (31) via their
respective exchange openings.
7. Multichamber microdialysis device according to claim
4, characterized in that the membranes (9) of the
35 sample chambers (7) which are in liquid exchange

contact to a common dialysate chamber (31), are fixed by means of a common fixing part (33).

- 5 8. Multichamber microdialysis device according to any one of the preceding claims, characterized in that the semipermeable membrane (9) contains cellulose acetate and/or regenerated cellulose.
- 10 9. Multichamber microdialysis device according to any one of the preceding claims, characterized in that it comprises at least 8, preferably at least 48, particularly preferred at least 98 sample chambers (7).